

WE CLAIM:

1. A holder for accurate positioning of a workpiece in the working area of a machine tool, especially an erosion machine, said holder including attachment elements for attaching said holder to a fixed carrier structure, said holder further including holding parts for holding the workpiece, wherein at least one of said holder and workpiece includes at least one vibration damper.

2. The holder as claimed in claim 1, wherein said vibration damper includes a damper made of rubber or a rubbery material arranged between said holder and said carrier structure.

3. The holder as claimed in claim 2, wherein said damper is loaded in pressure and tension.

4. The holder as claimed in claim 2, wherein said damper is loaded in shear.

5. The holder as claimed in claim 1, wherein said vibration damper includes a damper with adjustable clamping and spring properties.

6. The holder as claimed in claim 1, wherein said vibration damper includes a damper made of rubber or a rubbery material connected to a solid mass.

7. The holder as claimed in claim 6, wherein said solid mass is a spherical mass embedded in said material.

8. The holder as claimed in claim 1, wherein said vibration damper is disconnectable from one of said holder and workpiece.

9. The holder as claimed in claim 1, wherein said holder includes side segments to which said vibration damper is fastened.

10. The holder as claimed in claim 1, wherein said vibration damper includes a mat made of rubber or a rubbery material affixed on a free outer face of the holder.

11. The holder as claimed in claim 1, wherein said vibration damper includes a damper attached to a shortened shaft of a screw and positioned within a borehole of the holder, and resting against said carrier structure over a pin.

12. The holder as claimed in claim 1, wherein said vibration damper includes a cylindrically shaped damper inserted within a blind hole of a cylindrical screw and which envelops a pin braced against said carrier structure.

13. The holder as claimed in claim 1, wherein said vibration damper includes a metal alloy, such as an HDCM alloy, applied on the outside of said holder.

14. The holder of claim 1, wherein said vibration damper includes an insulating foil inserted between said holder and a mass.

15. The holder as claimed in claim 1, wherein said vibration damper includes an insulating foil inserted between said holder and one of said carrier structure and workpiece.

16. The holder of claim 1, wherein said vibration damper includes metal sheets connected into a package and which are frictionally engaged.

17. The holder as claimed in claim 16, wherein said package of metal sheets includes a pair of metal plates that sandwich a third metal plate having a high coefficient of friction.

18. The holder as claimed in claim 1, wherein said vibration damper includes several connected plates whose surfaces make contact with each other and which are integrated within said holder.

19. The holder as claimed in claim 18, wherein at least one of said connected plates has a high coefficient of friction and is inserted between a pair of plates.

20. The holder as claimed in claim 1, further comprising reference surfaces for accurately positioning and clamping a workpiece holder, said reference surfaces including a vibration damping coating made of a metal alloy which, after its application, is ground.

21. The holder as claimed in claim 20, wherein said coating is less than 2 mm thick.

22. The holder as claimed in claim 1, including a cellular space defining an open cell casting filled at least partially with insulating material.

23. The holder as claimed in claim 22, wherein said insulating material is made of cured rubber.

24. The holder as claimed in claim 1, including a metal hollow body filled at least partially with insulating material which is fastened to the inside of said hollow body.

25. A holder for positioning a workpiece within the working area of a machine tool, in particular an erosion machine, said holder including fastening elements for fastening the holder to at least one of a stationary support structure and a workpiece, wherein at least one of said holder and workpiece includes at least one vibration damper, said vibration damper positioned between said holder and said one of said support structure and workpiece, further comprising at least one area where the holder and said one of said support structure and workpiece make direct contact.

26. The holder as claimed in claim 26, wherein said direct contact occurs in an area that completely envelops said vibration damper, such as in the shape of a ring.

27. The holder as claimed in claim 25, wherein said direct contact is established by a plurality of spaced areas disposed in the four corners of a holder with a rectangular shape.

28. The holder as claimed in claim 25, further comprising a workpiece holder for holding said workpiece and wherein said holder is screwed or bolted in areas of said direct contact with at least one of said support structure and workpiece holder.

29. The holder as claimed in claim 25, wherein at least one of said holder, support structure and workpiece includes a recess in a surface that faces the other of said holder, support structure, and workpiece, said recess receiving at least part of said vibration damper.

30. The holder as claimed in claim 25, wherein said vibration damper is adjustably damped.

31. The holder as claimed in claim 25, wherein said vibration damper comprises sandwich-like connected layers.

32. The holder as claimed in claim 30, wherein said vibration damper includes a pressure plate which can be subjected to adjustable pressure by one of pressure bolts and a hydraulic piston/cylinder unit.

33. The holder as claimed in claim 29, wherein said recess defines an internal pressure chamber which communicates with a controllable pressure medium source, including a pressure plate resting on its rear side flat against said vibration damper.

34. The holder as claimed in claim 29, wherein said recess includes one or more shims inserted under said vibration damper.

35. The holder as claimed in claim 29, wherein the thickness of said vibration damper is greater than the depth of the recess.